

# A.A.A.S. BULLETIN

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## Thanksgiving

In 1621, three hundred and twenty-three years ago, the Pilgrims held a day of thanksgiving for their bountiful first harvest in the New World. Nine years later, in 1630, a day of thanksgiving was set aside throughout Massachusetts Bay Colony. Connecticut followed with a similar day in 1639, and repeated annually after 1647. Thanksgiving first became a national day of rejoicing over the year's blessings when President Washington, in October, 1789, issued a proclamation recommending its observance on November 26 of that year. Not until 1795 did he again set aside such a day for reverent thanks. Thanksgiving as a regularly recurring national holiday was first proclaimed by President Lincoln, who, in 1863, recommended the last Thursday in November as the day for its observance. Thus through a period of 242 years the pattern of grateful thanks for bountiful harvests, set by 103 pioneers on a rugged foreign shore, evolved into a great national holiday.

In its origin and essential nature Thanksgiving is different from every other holiday. It is not a day in commemoration of the birth of some saint or ruler or other benefactor of mankind. It does not commemorate the signing of some historic declaration or the winning of some great victory or the beginning of some profound revolution or the founding of some new government. It does not relate to any particular person or event or time. In its origin and in its practice, at least until recent decades, it proclaimed the continuing bounty and beneficence of God and Nature to man. It invites reflection on forces beyond human control and understanding and

stimulates introspection and humility. It has moral qualities independent of all ideologies, dogmas and creeds. Fortunate the people who yearly celebrate such a holiday as Thanksgiving!

Scientists are accustomed to quantitative considerations. Consequently, when contemplating the reasons Americans have for being thankful, they might be expected to inquire with Cicero, "What country do we inhabit?" For a moment, let us consider the question literally. The land area of continental United States is almost 3,000,000 square miles. For centuries England has been a great country, yet its area is less than two percent of that of the United States. In fact, the combined area of all the countries of western Europe—England, Ireland, Scotland, Wales, France, Belgium, Holland, Germany, Denmark, Norway, Sweden, Spain, Portugal, Italy, Switzerland and Poland, sixteen countries, as they were five years ago—is less than the area of our country east of the Mississippi and Missouri Rivers. Even if the Balkan countries are included—Albania, Bulgaria, Czechoslovakia, Greece, Hungary, Romania, Turkey and Yugoslavia—the total is only two-thirds of that of the country we inhabit.

A million square miles of fertile soil lie between the Appalachian Mountains and the Rockies in a favorable climate, with other rich agricultural areas along the Atlantic and Pacific Coasts. Within the borders of the United States there rests still unmined 52 percent of all the known coal deposits in the earth. The reserves of iron ore are estimated to be twice those of Europe, and there are still fabulous quantities of petroleum, natural gas and oil shales, the major primary sources of the energy that turns the wheels of an industrialized world. To complete the picture, copper, sulfur, lead, zinc, salt and other minerals in abundance should be added. This unique combination of soil, climate, sources of energy and minerals was in the making during hundreds of millions of years. Favorable and rather exceptional sequences of geological processes deposited the varied and abundant mineral riches. Erupting volcanoes and mountains and

invading seas and frosts and winds and advancing glaciers combined during a billion years apparently to prepare a Garden of Eden in which some chosen people might develop a civilization that would be a model for all the future of mankind.

After a billion years of preparation of this continent for the support of a civilization, Fortune favored it with a high type of human and cultural resources as well. The early permanent settlements in this country were made largely by the British, the Swedes, the Dutch, the French, the Germans—by peoples from most of the leading countries of northwestern Europe. Racially they were closely related and free from deep-seated antagonisms. Culturally they were fundamentally similar, having the same basic religion, the same general superstitions and folklore, and the same inheritance of philosophy, science and classic literature. Having travelled thorny roads of adversity and survived, they were hardy and self-reliant. When they crossed the stormy Atlantic to the New World they were moved by the same spirit of adventure, the same longing for freedom, the same hope for riches and power. After joining in a long war for political independence from Europe and winning it, they organized a new government in order to form a more perfect union, establish justice, promote the general welfare and secure the blessings of liberty to themselves and their posterity.

For all the natural and human resources that have been enumerated the citizens of this country should now be truly thankful. They should be thankful for the inspiration that produced the Constitution of the United States. They should be thankful that on this favored continent peoples of various origins have enjoyed such an unparalleled degree of mutual understanding and faithful cooperation. They should be thankful for the many great men and women who have arisen in this Western World and for the staunch friends this nation has always had in foreign lands.

In addition to these superlative reasons for being thankful, scientists have a special one that is primarily their own. They are finding that the universe about them is not a terrifying chaos but a wonderful system whose orderliness they can gradually discover and increasingly understand. They are providing a basis for hope that the darkness of superstition may ultimately be dissipated and succeeded by the bright light of experience and reason. It is theirs to be thankful that they are removing a heavy and wearisome weight of an unintelligible world from the minds of men.

Great privileges always impose equally great responsibilities. Therefore it would be inexcusable for Americans not to reflect gravely on the role that Fate now calls on them to play. However thankful they may be for the blessings they have enjoyed and however much they may long to have them continue, they should strive more earnestly to be fully worthy of those they already have received.

#### Medical Education

In an article entitled "Forty Years of Public Health" which appeared in the September issue of the BULLETIN a paragraph was devoted to comments on medical education in the United States. The paragraph presented statistics of the number of medical schools and students of medicine in 1905, and similar statistics for the years immediately preceding the war, all of which were taken from Government sources. The paragraph also contained three sentences on the influence of The Johns Hopkins University School of Medicine on medical education in this country, and on the large number of medical schools which were established near the close of the century and then "withered on the vine."

A correspondent expressed the opinion that erroneous conclusions respecting medical education would likely be drawn from the short paragraph in the BULLETIN. The history of medical education near the close of the century is one of such importance and general interest that the brief statement in the BULLETIN deserves a little amplification and emphasis. It will be clearest to consider first the innovations in medical education at Johns Hopkins.

The Johns Hopkins University opened its doors to students of the arts and sciences in 1876. The whole institution was dedicated to research and scholarship in the highest possible plane; it was a place where the most promising young scientists could and would work under men chosen from among the most eminent scholars.

From the founding of The Johns Hopkins University President Daniel C. Gilman had contemplated establishing a school of medicine on the same high plane, but the first definite steps toward such an institution were not taken until March, 1884, when Dr. William H. Welch accepted an appointment as professor of pathology. This appointment was followed in succeeding years by the appointment of other eminent specialists in fields which are basic for medical science. Nine years after the appointment of Dr. Welch, in 1893, the foundations had been com-

pleted for The Johns Hopkins University School of Medicine and it opened its doors to students.

Before accepting the position at Johns Hopkins, Dr. Welch had been for six years on the faculty of Bellevue Hospital Medical College in New York City. In his biographical memoir of Dr. Welch, prepared in 1942 for the National Academy of Sciences, of which Dr. Welch was president from 1913 to 1917, Dr. Simon Flexner said that during his six years in New York Dr. Welch . . . "failed to bring a single piece of pathological work to conclusion; in the next six or seven years . . ." at Johns Hopkins he completed eight important researches.

To quote further from Dr. Flexner: "Undoubtedly, Welch's greatest work was the up-building of the Hopkins Medical School, which exerted a strong influence in this country and even on medical education in Europe. The part which Welch played in developing the medical school extended over more than forty years. The first unit of the school to come into existence was the Johns Hopkins Hospital, which opened in 1889. At the outset a radical departure was made in the appointment of the major clinical staff, who became at the same time professors in the university. Hitherto medical schools in America were staffed from the local practitioners. The Hopkins called Osler in medicine, Halsted in surgery, and Kelly in gynecology, all from a distance. This was President Gilman's policy put into effect by Welch." ". . . In 1891 Welch had drawn up a plan of instruction in which he included, for admission to a medical school, preliminary training in biology, chemistry, and physics, and a reading knowledge of French and German. This standard was not to be adopted at once, but to be attained gradually. The women's committee seized on the plan and demanded its immediate execution, adding to it the possession of a college degree by the entrants and the admission of women on the same terms with men. All these conditions were reluctantly granted. Welch was made dean of the new school, the next step being the setting up of laboratories of anatomy, physiology, pharmacology and physiological chemistry staffed by trained teachers and investigators. The school got under way in 1893, and its classes grew in number with surprising rapidity. The country had proved more ready than had been foreseen to take so great a step forward in medical education."

Regarding the publication of medical research and the stimulation of medical research, Dr. Flexner had the following to say: "About the end of the nineteenth century modern medical

education was advancing rapidly and the output of scientific work had become considerable. The first scientific medical periodical—the *Journal of Experimental Medicine*—was issued in 1896 with Welch as editor. At the end of the century the Rockefeller Institute for Medical Research was founded with Welch as president of its Board of Scientific Directors. But progress in the clinical branches of medicine had lagged behind that in the laboratory branches. Welch now turned to the task of making the two branches more nearly equal. To this undertaking he devoted many of his energies for the first dozen years of the new century, the result being the institution at the Hopkins in 1913-14 of university chairs, sometimes called full- or whole-time professorships, in the main clinical subjects."

The contributions of Dr. Welch to medical science were rounded out in the fields of public health and history of medicine, concerning which Dr. Flexner wrote ". . . in 1916 the Rockefeller Foundation, in the furtherance of its public health work under the guidance of the International Health Board, founded the School of Hygiene and Public Health at The Johns Hopkins University with Welch as its first director.

"Welch's last years were spent in the organization of the Institute of the History of Medicine in connection with the University's medical library bearing his name. The addition of medical history to the medical curriculum was also the realization of an early idea of Welch's."

On the subject of founding medical colleges the article in the BULLETIN contained the following sentence: "Shortly after the founding of the School of Medicine of The Johns Hopkins University an epidemic of starting medical colleges swept over the country, somewhat similar to that of the founding of denominational colleges in earlier days. In 1905 there were 160 medical schools, attended by 26,147 'students of medicine' from which 5,606 students were graduated. Now there are only 77 schools of medicine on the approved list for full four-year courses in medical science." Since the essential correctness of this statement was challenged, the statistics on the founding and fate of medical schools and so-called medical schools in this country more detailed statistics have been examined. According to the Directory of the American Medical Association, 434 "medical schools" have been organized in the United States, 283 before 1890 and 151 during the 20 years from 1890 to 1909, inclusive, since which date no new medical schools having four-year courses have been founded.

Of the 434 medical schools that have been organized in the United States, 249 have become extinct, a considerable number of them for fraudulent practises. A total of 128 medical schools have been absorbed by others or merged with others, and only 77, or fewer than one-fifth of the number established, now survive on the approved list for full four-year courses in medicine. The excuse for stating that "an epidemic of starting medical colleges swept over the country . . ." during the period that medical education was being developed at Johns Hopkins under Welch is that 151 medical schools, or almost twice the 77 still existing on the accredited list, were founded in the twenty years 1890-1909, and not one in the past 35 years.

These statistics on medical schools illustrate how rapidly the world is changing, as do all those which have been presented in recent issues of the BULLETIN. They illustrate the facts, which are beyond our grasp. We live, but a world has passed away with the years that will never return.

#### Notes on October Activities

There were 26 working days in October. In these few days, 1,501 applications for membership in the Association were received, or an average of 58 per day. The membership records of more than 1,400 of these applicants have been completed (November 1) and instructions will be sent to the printers so that all new members will begin to receive their journals in January when each journal starts a new volume. The total membership of the Association now exceeds 26,000.

As the applications for membership were examined and recorded it was noted that a considerable number, in fact, a surprising number, were from our armed services. A precise record of the number was not kept, a not important omission because some men in the armed services give their home addresses. Another interesting fact is that a large percentage of members in the armed services are enlisted men, some of them on overseas duty. Letters received from them prove their undiminished interest in science. The following letter is an illustration.

Since I entered the Army a year and a half ago, I have constantly followed, with interest, the monthly publications of "The Scientific Monthly," being fortunate enough to obtain a copy at the post library of all the air bases where I've been stationed. However, in the near future I'll be sent overseas and I'm afraid that it will be very difficult, if not impossible, to get hold of a copy of "The Scientific Monthly." Therefore, I would appreciate it if I could be permitted to subscribe to your monthly for the

year beginning September, 1944. I realize the difficulties in obtaining copies because of war time shortages but if my subscription is accepted I will gladly forward the necessary money.

(Signed) CORPORAL LEO MILLER

In October over 12,000 checks for dues of members were received, or an average of over 460 per working day. Such prompt payments of dues make easier the problem of completing subscription lists for the journals which are entered for the calendar year. Requests for changes from *Science* to *The Scientific Monthly* or the opposite are taken care of at the beginning of the calendar year so that each member will have complete volumes of his journals. The same considerations apply in cases where members desire to receive both journals, which they may do by paying \$3 in addition to their membership dues.

It is especially important this year that membership dues be paid promptly because the shortage of paper will make it necessary to keep the number of copies of the journals printed as low as is safe. The large number of new members being enrolled adds, of course, to the difficulties of the problem. That there is a difficulty is proved by the fact that in spite of generous donations 100 copies of the February, 1944, issue of *The Scientific Monthly* are still needed and 50 copies of the March issue because of an unexpected number of new members during the spring months who desired back copies from the beginning of the year.

Since it is desirable that admission to membership be in the autumn months, it is suggested that members make nominations of their friends for membership in the Association as early as possible. In recent years the percentage of nominations that result in election to membership has approached 100.

Another interesting item remains to be mentioned: On October 1 a ballot for president of the Association for 1945 was sent to all members of the Association. Many more votes have been received than in any previous year. The result of this ballot will be transmitted to the Council for its information when it votes for officers of the Association by mail ballot. All results of this voting for officers will be printed in the December issue of the BULLETIN.

#### The December Scientific Monthly

During the war civilians do not expect to learn much about subjects of military importance, but those who read the leading article by General Simmons will get some definite information about

the prevalence of tropical diseases among our troops and what is being done to control insect vectors. The illustrations show the environments in which some of these diseases are contracted.

Those areas of the Middle West that have been stripped by huge shovels to mine coal lying near the surface may give the casual traveler the feeling that the works of man and nature have been devastated. But Professor Holmes points out that these scrambled areas have not lost their utility to man, that they may be profitably forested or grassed for pasture or used for recreational purposes.

Perhaps every scientist has a secret desire to get a medal in recognition of his accomplishments—a medal that he can pass on to his children. Those who have not yet received a medal may find out from Mr. Brockett's article what may be in store for them from the National Academy of Sciences.

The title of Dr. Milton's article, "Stones from Trees," does not refer to petrified wood, but rather to stones that are occasionally formed by the fusion of wood ash under particular conditions of combustion during forest fires. These curiosa are illustrated.

Dr. Perrine's article in the November issue illuminated the subject of electrical communication. Now we have from Dr. Koenig the story of the most rapid communications that preceded the electrical telegraph. Those who have never heard the story will find it absorbing.

The article by General Reinartz on aviation medicine is definitely in the category of restricted information. The General can tell the public little of what has been accomplished, but he can and does give the history of aviation medicine and outlines the problems on which research is being done.

Mr. Boyajian reports the dialogue of an imaginary posthumous discussion between an eminent physicist and an equally distinguished philosopher. He causes Michelson to say to Kant: "You have aroused my interest, and you talk clearly and interestingly like a scientist, instead of enigmatically and oracularly like the rest of the philosophers." It is predicted that the words of both men will arouse similar interest in every reader.

Every professor should be interested in the article by Dr. Mullett, for during this war nearly every professor has had to decide for himself whether to stay on the campus and do his regular work, with or without students, or to pack up

and go to Washington or elsewhere in the hope of speeding the end of the war. Dr. Mullett is of the opinion that many of those who rode off in all directions would have been wiser to have remained at their posts.

In recent months *The Scientific Monthly* has published original poems by scientists to show that poetic imagery can flow from purely scientific subjects. Such is the contention of Dr. Glicksberg, who points out that poets should find in science "a real and spacious world for the exercise of their talents and a rich soil for the use of their imagination and insight."

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#### Changes of Journal

Each member of the Association receives with his membership a subscription for either *Science* or *The Scientific Monthly*. In the course of a year a considerable number of changes from one of these journals to the other are requested by members. Since each journal begins a new volume in January, changes are made to begin at that time unless otherwise explicitly requested.

Members receiving either *Science* or *The Scientific Monthly* may receive both of them for \$3 in addition to their regular membership dues, or for \$8 per year. At present 1,156 members who originally received *Science* alone have subscribed for *The Scientific Monthly*, and 370 who originally received *The Scientific Monthly* alone now receive both journals. *Science* contains preliminary announcements and reports of the meetings of the Association, scientific notes and news, notices of scientific meetings, short announcements and discussions of scientific investigations, and obituary notices. This journal, now in its 100th volume, consists of two volumes per year,

each of about 625 pages except when restrictions on paper require slight reductions.

*The Scientific Monthly* is an illustrated non-technical journal now in its 59th volume. Each issue normally contains nine principal articles, many of them by eminent authorities, distributed over the various fields of the natural and social sciences, several short articles on current scientific events and discoveries, and reviews of non-technical books on science. The *Monthly* consists of two volumes per year, each of about 576 pages, except when restrictions on paper require an increase in the amount of type on a page permitting an equivalent reduction in the number of pages.

#### News from the Philippine Front

Dr. Rollin G. Myers, who became a member of the Association in 1929 and a fellow in 1933, was Head Chemist at Cavite Navy Yard, Manila, when the Philippine Islands were taken by the Japanese, in December, 1941. Upon inquiries from one of his friends, Mr. W. H. Hammond, regarding ways of learning where Dr. and Mrs. Myers might be interned and the state of their health, the office of the Permanent Secretary enlisted the cooperation of the Red Cross. In due time the Association was informed that Dr. and Mrs. Myers were interned in Manila and were safe.

Recently Mr. Hammond received a letter from a lady who has recently been released from the same prison in Santo Tomas in which Dr. and Mrs. Myers are interned. This letter is not only reassuring regarding Dr. and Mrs. Myers, but it gives a clear picture of conditions in the prison in which they are interned. Since it is of general interest in these times of emotional stress and may reassure persons who have friends at the same place, the following quotations from the letter to Mr. Hammond are given:

Mrs. Myers and I both lived in Room 24 of the Main building at Santo Tomas and came to know and enjoy each other very much. As far as I can recall, she was interned about the same time that I was, Jan. 6th, 1942. Immediately she volunteered to help in the camp hospital as a nurse and continued her services until she and her husband were released in Aug. 1942, on the grounds of her husband's age and health. They went to the apartment of a Miss Roka, also interned in our camp, and occupied the rooms with several people. They were able to secure funds from friends who were neutrals; they were also able to secure many of their personal possessions in the way of trunks, suitcases, etc. They were out of camp until about May, 1943, when there was a pretty general roundup. I think they were glad to return to the security of the camp. Conditions outside were increasingly difficult, prices high, food and medicines diffi-

cult to secure. Dr. Myers had found it hard to make the adjustment when he was first interned, but when he returned, in 1943, he settled in quite comfortably. For one thing he had a cubicle in one of the patios, where there was a bit more privacy than was possible in a large room with 40 or 50 men. They were able to set up a card table for a dining table; they had a charcoal stove for cooking; they still had funds to buy extra fruit and vegetables, peanut butter, etc. Rachael came back to Room 24, where she received the warmest kind of a welcome. When I left she was assisting the head of the Hygiene Department. Dr. Myers was busy with his books, which absorbed much of his time. He was looking much better than when I knew him in 1942.

I have tried to give you a balanced picture. Life was not easy under the best of circumstances, but I know now we were better off than internees in many of the China camps. We were allowed to run the camp ourselves (subject of course to Japanese approval of our rules and regulations). We had a good supply of water, sanitary equipment in the shape of toilets, showers, troughs for washing clothes, various services like net washing done by men. There were lectures, entertainments, concerts, good musical records, played each evening (with loud speakers installed); there were adult classes, religious services; there were about 1,000 books in the camp library. Filipino vendors came in every day for 3 hours and were permitted to sell fruit and vegetables, sometimes eggs, meat, cocoanuts, etc. Clothing and material by the yard was on sale. Prices were exceedingly high, and all things and all supplies increasingly hard to get. We were all quite anxious over the situation. We dare to believe that the tons of supplies sent by the Gripsholm did reach their destination, relieving the shortage which certainly existed.

I realize this is an inadequate description, but perhaps better than nothing. I shall be glad to answer any specific questions you may care to ask. I feel that I should say that Mrs. Myers was not as strong as I would have liked to have seen her, but she said there was nothing to worry about.

I think you know they were in Cavite when it was bombed, and succeeded in getting to friends in Manila just afterward.

#### The American Microscopical Society

The American Microscopical Society had its origin at a National Microscopical Congress held at Indianapolis, Indiana, in 1878. At this convention The American Society of Microscopists was organized with the following officers: *President*, R. H. Ward, Troy, New York; *Vice Presidents*, J. Edwards Smith, Cleveland, Ohio, and W. W. Butterfield, Indianapolis, Ind.; *Secretary*, H. F. Atwood, Chicago, Ill., and *Treasurer*, J. B. Marvin, Louisville, Ky. At the second meeting, held in 1879 at Buffalo, N. Y., a constitution was adopted and the society was placed upon a substantial basis. The society was incorporated in 1891.

The proceedings, including the principal addresses delivered at each meeting, were published as "Proceedings of the American Society of Microscopists." This name was continued until 1892 when the society's name was changed to the American Microscopical Society. Four years later the name of the society's journal was changed to *Transactions of the American*

*Microscopical Society.* This quarterly journal of biology and microscopy is now in its 62d volume.

The society maintains three classes of members: members, life members and honorary members. All classes of members have full membership privileges and receive the quarterly *Transactions*. Members pay annual dues of \$2.00; life members pay \$50.00 at one time and no further dues. Honorary members are recommended by the Executive Committee and elected by the society. They pay no dues.

Starting with a good nucleus of members in Indianapolis in 1878 the society, by the end of the next year, had a membership of about 60. Much interest was manifested and at the fifth meeting, held at Elmira, N. Y., in 1882, 118 new members were elected.

The society continued to prosper and in the early years of the present century, the combined members and subscribers exceeded 400. At present the membership numbers 493 and the subscribers to the *Transactions*, 208.

One of the supporting features of the society has been its endowment, which was early designated as the Spencer-Tolles Fund. In 1885 individuals and friends of the society began to make contributions to an endowment fund. In 1902 when the fund amounted to over \$1,200, the society decided to honor two of its valuable and illustrious members, Charles A. Spencer and Robert B. Tolles, by naming the endowment fund the Spencer-Tolles Fund.

The purpose of the fund was the encouragement and furtherance of research, especially among its members and in lines of study in which the microscope is the principal instrument of research. The plan was to add to the principal by means of gifts, sales of *Proceedings* and *Transactions* and income from investments. Grants for aid in publication were to be made only from income from the principal.

The fund has continued to grow through the years, until in 1942 its value was \$22,012.49. It is administered by a committee of three.

For many years the society has met annually as an affiliate of the American Association for the Advancement of Science.—JAMES E. ACKERT, *Secretary*.

#### The New Hampshire Academy of Science

Quoting from the address of Mr. William Segerblom, upon his retirement as president of the New Hampshire Academy of Science in 1927, ". . . the formation of the New Hampshire Academy of Science in 1919 occurred at the suggestion of Dr. J. McKeen Cattell, editor of *Science*, the initial step in the actual organization having been taken by a committee consisting of Professor John H. Gould, Professor Norman E. Gilbert, and Dr. John M. Gile of Hanover, with the cooperation of Professor W. C. O'Kane, Dr. Charles James, and Mr. H. L. Howes of Durham. This was the outcome of a plan of the American Association to cooperate with the state academies of science and to encourage their foundation in states where they did not already exist."

The first meeting of the academy was held in the auditorium of the State Historical Society Building in Concord, N. H., on May 24, 1919. At this meeting, the constitution was ratified and officers were elected. John M. Gile was the academy's first president and W. C. O'Kane was its first secretary-treasurer.

Following the business meeting an open meeting was held for the presentation of scientific papers. The first speaker was Ernest R. Groves of New Hampshire College and his subject was "Science and Social Unrest." He was followed by Hugh K. Moore, chief chemist and chemical engineer of the Brown Company of Berlin, N. H., on "New Chemical Discoveries." The program was continued in the evening, when Gerald H. Thayer spoke on "Camouflage and Protective Coloration," and was concluded with an address on "The Geology of New Hampshire" by J. W. Goldthwaite of Dartmouth College. There was thus established at this first meeting the practice, since continued, of presenting scientific papers on research and the elucidation of current problems. More recently it has been the custom at annual meetings to have an address by the president preceding the presentation of scientific papers. The first annual meeting of the academy was held on Saturday, May 29, 1920, in Manchester at the building of the Manchester Institute of Arts and Sciences.

The officers of the academy are the president, a vice president, and a secretary-treasurer, elected annually, who together with four members of the academy elected for terms of four years comprise a council.

The aims and purposes of the organization, as stated in Article II of the Constitution, are as follows:

- To advance the cause of pure and applied science and of scientific research.
- To bring about a wider appreciation and understanding of scientific work and truths and the value of their relation to practical affairs.
- To cooperate with educational institutions of the state of New Hampshire for the improvement of scientific education.
- To bring about closer cooperation between its members and municipal, state, and national authorities in public work.
- To encourage a close union between science and industry.
- To promote pleasant acquaintance and social and professional intercourse among its members.

Article III, Section 1, of the Constitution provided for two classes of members, active and honorary, and stipulated that all active members "must be not less than 25 years of age and must be proficient in some branch of recognized science." In 1940, this section was amended by removing the age limit. Honorary members are persons of unusual ability recognized publicly as such. They are nominated by the council and voted on by the academy. There are never to be more than ten at any one time.

Applications for membership are made to the secretary or the Membership Committee in writing and supported by two persons familiar with his scientific standing, one of whom shall be a member of the academy. After satisfying itself of the candidate's

qualifications, the Membership Committee recommends his election to the academy.

The membership of the academy has increased from 88 charter members in 1919 to 220 in 1942. A recent analysis of the membership shows that 23 New Hampshire towns and cities are represented and 14 other states. Teachers from colleges, academies, and secondary schools of New Hampshire, and men and women engaged in medical, engineering, forestry, or other scientific work, and individuals interested in scientific developments connected with New Hampshire, comprise the great majority of the membership.

The publications of the academy include the annual *Proceedings* and an annual *News Letter* of events in New Hampshire science. In the earlier years of its existence, the secretary sent out to members at frequent intervals the *News Letter*. With increasing membership, it became convenient to combine the science news into one ample *News Letter*, for winter distribution. The *Proceedings* has regularly appeared annually since 1919 and has included the substance of the papers presented at the annual meetings. The academy has published the handbook, "Geology of New Hampshire" by J. W. Goldthwaite. Of this work, Wilhelm Segerblom stated in 1927, "No other academy has published any handbook of its state, such as the handbook of the geology of New Hampshire prepared by Prof. J. W. Goldthwaite for the Academy, and financed from the Academy funds."

In odd years, the academy holds its annual meetings alternately at Durham and Hanover, and in even years at some other point in the state as determined by the Executive Council.

The academy distributes the A. A. A. S. grant-in-aid, which in recent years has been \$50, to selected New Hampshire investigators. In addition, the academy may supply approved amounts of money for the support of worthy research. In 1932, \$400 was granted to assist in founding the Mt. Washington Observatory. Normally, grants are available for the purchase of scientific materials or apparatus to be used in research projects, or to pay field or other expenses.

At the present time, the annual dues are \$1.00, having been reduced from \$2.00 at the start of the organization.—A. R. HODGDON, *Secretary-Treasurer*.

#### New Symposia Volumes

Two new Association symposia will soon appear from the press, the dates depending upon the time required for binding.

"The Chemistry and Physiology of Hormones" is a comprehensive, thoroughly documented discussion of a subject of great interest and importance. Its authors are 17 leading authorities in the field.

"Mammary Tumors in Mice" is an exhaustive summary of important attacks on the cancer problem which the Association is publishing for the National Cancer Institute.

#### Membership in the Association

##### *Eligibility for Membership*

Membership in the Association is open to all persons engaged in scientific work, whether in the fields of the natural or the social sciences; to all amateur scientists, whatever their special interests; and to all who desire to follow the advances of science and its effects upon civilization. Members having made substantial contributions to the advancement of science are eligible for election as fellows.

##### *Dues and Publications*

Membership dues are \$5 per year, including subscriptions for the monthly A.A.A.S. BULLETIN and either the weekly journal *Science*, now in its 100th volume, or *The Scientific Monthly*, now in its 59th volume. *Science* is a journal for professional scientists; the *Monthly* is a nontechnical journal for the intelligent public. The Association also publishes technical symposia and nontechnical books on science that are available for members at prices substantially below those to the public.

##### *Organization and Meetings*

The Association was founded in 1848, with an initial membership of 461. Papers in its early programs were classified as either natural philosophy or natural history. Now its work is organized under 16 sections and 189 associated societies having a total membership of over 500,000. Its annual meetings are the greatest regular gatherings of scientists in the world.

##### *Nominations and Applications for Membership*

Members may submit nominations for membership at any time, and persons desiring to become members can obtain membership application forms from the Office of the Permanent Secretary, the Smithsonian Institution Building, Washington 25, D. C.

#### Changes of Address

New addresses for the Association's record and for mailing the journals *Science* and *The Scientific Monthly*, as well as the A.A.A.S. BULLETIN, should be in the Office of the Permanent Secretary, Washington 25, D. C., at least two weeks in advance of the date when the change is to become effective.

#### Officers of the Association

*President*, Anton J. Carlson; *Permanent Secretary*, F. R. Moulton; *General Secretary*, Otis W. Caldwell; *Treasurer*, W. E. Wrather; *Director of Publications*, F. L. Campbell; *Assistant Secretary*, Sam Woodley.

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